PANDEMIC INFLUENZA U·P·D·A·T·E

Public Health Prepares **November 2006**

If you are asked . . .

"What's happening with Pandemic Influenza vaccine development?"

If a pandemic influenza strain was identified, it would likely take several months to make a vaccine against it, and stimulating protective immunity with the vaccine would likely require more than one dose. Giving people two doses of H5N1 influenza vaccine while a pandemic is evolving, would be logistically difficult. However, some researchers have been urgently investigating alternative strategies.

One such alternative is to prime people ahead of time with a related vaccine so that only a single dose of vaccine is required when the pandemic emerges. A team of researchers led by University of Rochester Medical Center investigators Nega Ali Goji, M.D., and John J. Treanor, M.D., recently tested this hypothesis. They compared the immune response to a single 90-microgram dose of one variant of avian flu vaccine in two groups of adults: those who had received a different variant of H5N1 avian flu virus vaccine some eight years earlier and those without pre-exposure to any H5N1 virus or vaccines.

Fast Facts

The first comprehensive analysis of an animal's immune response to the 1918 influenza virus provides new insights into the killer flu, report federally supported scientists in an article appearing in the journal *Nature*. Key among these insights, scientists found that

- the 1918 virus triggered a hyperactive immune response that may contribute to the lethality of the virus.
- a combination of all eight of the 1918 flu virus genes interacting synergistically accounts for the exceptional virulence of this virus.

Continue this article at http://www3.niaid.nih.gov/news/newsreleases/2006/1918mouse.htm

In late 1997-98, soon after the first case of direct bird-to-human transmission of an H5N1 flu virus occurred in Hong Kong, NIAID funded the production of an experimental vaccine made from the Hong Kong virus and tested it in a small clinical trial conducted at the University of Rochester in healthy adults. Thirty-seven individuals who received two doses of the Hong Kong H5N1 vaccine in that trial served as the "primed" population in the current study.

Read the complete article at http://www3.niaid.nih.gov/news/newsreleases/2006/IDSA.htm

Public Health Prepares . . .

Update on H5N1: Global Activity Humans and Birds

Humans: During recent outbreaks since 2004, there have been **256** confirmed cases in humans and **152** deaths. They occurred in the following nations: Vietnam 93 cases and 42 deaths; Thailand 24 cases and 16 deaths; **Indonesia 72** cases and **55** deaths; China 21 cases and 14 deaths; Turkey 12 cases and 4 deaths; Iraq 3 cases and 2 deaths; Azerbaijan 8 cases and 5 deaths; **Egypt 14** cases and **7** deaths; Djibouti 1 case and 0 deaths; Cambodia 6 cases and 6 deaths.

Birds: Since December 2003, avian influenza A (H5N1) infections in poultry or wild birds have been reported in the following regions/countries: ASIA (Cambodia, China, Hong Kong, India, Indonesia, Laos, Malaysia, Myanmar, Pakistan, Thailand, and Vietnam); CENTRAL ASIA and the MIDDLE EAST: Afghanistan, Azerbaijan, Georgia, Iraq, Iran, Israel, Jordan, Kazakhstan, Palestine Autonomous Territories, and Turkey; AFRICA: Egypt, Burkina Faso, Cameroon, Cote D'Ivoire, Niger, Nigeria, Djibouti, and Sudan; EUROPE: Albania, Austria, Bosnia/ Herzegovina, Bulgaria, Croatia, Czech Republic, France, Denmark, Germany, Greece, Hungary, Italy, Poland, Romania, Russia, Siberia and Montenegro, Slovakia, Slovenia, Sweden, Switzerland, Ukraine, and United Kingdom.***Bold print highlightschanges.**

CDC Recommends . . .

Since the publication of the *HHS Pandemic Influenza Plan* (www.hhs.gov/pandemicflu/plan/) in November 2005, the U.S. Department of Health and Human Services (HHS) has received numerous comments and inquiries regarding infection control recommendations that relate to surgical mask and respirator use (e.g., N-95 respirator[a]) during an influenza pandemic.

Development of authoritative responses is hampered by the lack of definitive data about the relative contributions and importance of short-range inhalational exposure, large droplet mucosal exposure, and direct inoculation via hands or inanimate objects contaminated with virus (i.e., fomites) on influenza transmission There is only limited information on optimal interventions to prevent influenza transmission and the effectiveness of interventions on an individual basis. The lack of scientific consensus has led to conflicting recommendations by public health partners.

Moreover, a large amount of incorrect, incomplete, and confusing information about surgical mask and respirator use has been disseminated on the Internet and by other popular media.

The Centers for Disease Control and Prevention (CDC) is aware of no new scientific information related to the transmission of influenza viruses since the drafting of the *HHS Pandemic Influenza Plan* (www.hhs.gov/pandemicflu/plan/). As stated in the plan, the proportional contribution and clinical importance of the possible modes of transmission of influenza (i.e., droplet, airborne, and contact) remains unclear and may depend on the strain of virus ultimately responsible for a pandemic. Nevertheless, in view of the practical need for clarification, CDC has re-reviewed the existing data, and has prepared interim recommendations on surgical mask and respirator use.

The purpose of this document is to provide a science-based framework to facilitate planning for surgical mask and respirator use in health care settings during an influenza

pandemic.

To continue this article, visit
www.pandemicflu.gov/plan/healthcare/maskguidancehc.html

Pass This On . . .

The latest national survey conducted by the Harvard School of Public Health (HSPH), *Project on the Public and Biological Security* finds that when faced with a serious outbreak of pandemic flu, a large majority of Americans are willing to make major changes in their lives and cooperate with public health officials' recommendations.

However, the survey also finds that a substantial share of Americans would have no one to care for them if they become ill or would face serious financial problems if they had to stay home from work for a week or more.

To view the complete survey and Power Point slides see:

www.hsph.harvard.edu/panflu/IOM_Avian_flu.ppt
www.hsph.harvard.edu/panflu/panflu_charts.ppt
www.hsph.harvard.edu/panflu/panflu_release_topline.doc

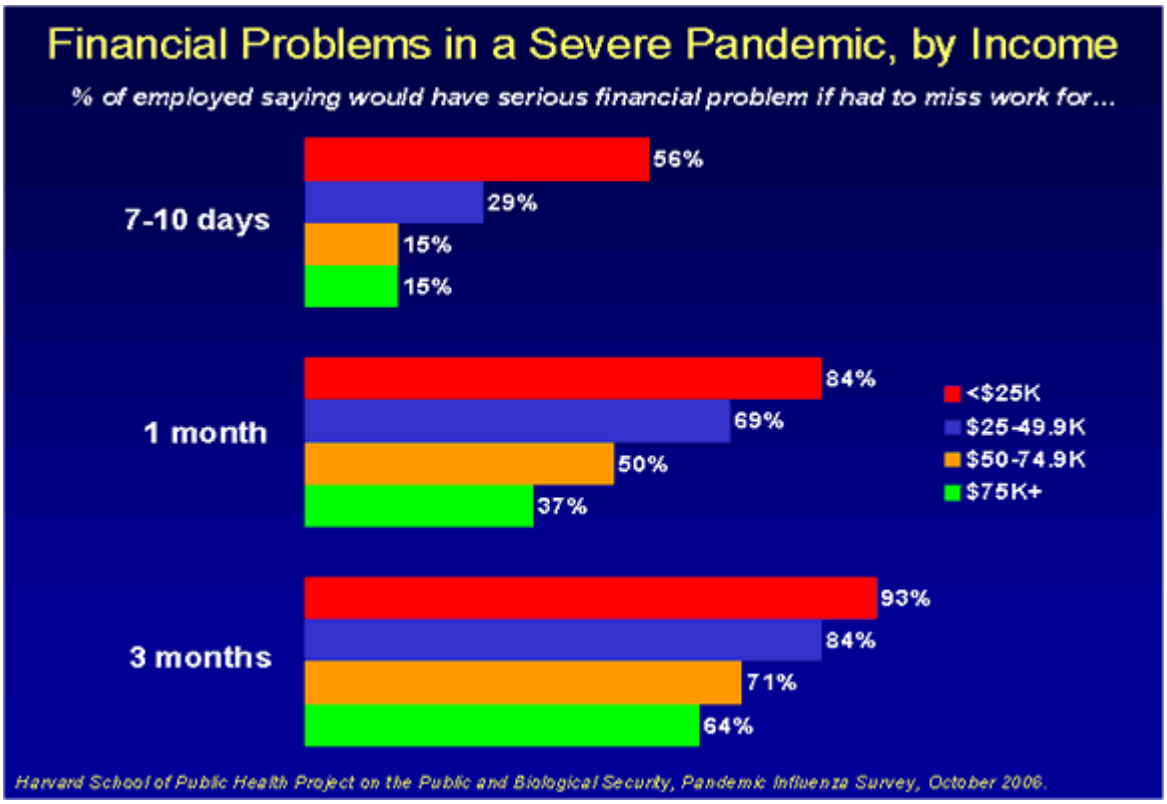
Where to Find Out More . . .

The U.S. Departments of Agriculture and Interior have announced final test results, which confirm that no avian influenza virus was found in samples collected earlier this month from wild Northern pintail ducks in Ohio.

The USDA National Veterinary Services Laboratories (NVSL) confirmed that there was no avian influenza present in samples collected from wild Northern pintail ducks in Ottawa County, Ohio. Initial screening results announced on Oct. 14 indicated that H5 and N1 subtypes might be present in the collected samples, but further testing was necessary to confirm the H and N subtypes as well as pathogenicity.

The initial rapid screening tests are highly sensitive and can detect inactive viruses in samples. It is not unexpected to have positive results on an initial screening test and then to have confirmatory testing reveal that no active virus is present in a sample. The initial screening tests performed on the Ohio samples resulted in a weak positive for both H5 and N1. During confirmatory testing, H5 and N1 subtypes were not found; no virus could be grown during the virus isolation test.

To continue this article, visit
www.usda.gov/wps/portal/usdahome?contentidonly=true&contentid=2006/10/0429.xml



Pandemic Influenza Update: Reader's Feedback

The monthly Pandemic Influenza Update is prepared by CDC's Office of Enterprise Communications. Information in this newsletter is time sensitive and evolving. Readers are welcome to comment by email to: PANUPDATE@CDC.GOV